

EXPOSURE METHOD AND APPARATUS

Publication Number: 2005-142599 (JP 2005142599 A) , June 02, 2005

Inventors:

- SAITO KENJI
- YAMAZOE KENJI
- SUZUKI AKIYOSHI

Applicants

- CANON INC

Application Number: 2005-043679 (JP 200543679)

Application Number: 2002-123268

Application Number: JP 2002123268 , February 21, 2005

Priority:

- 2001-369393 [JP 2001369393], JP (Japan), December 03, 2001
- 2001-126759 [JP 2001126759], JP (Japan), April 24, 2001

International Class:

- H01L-021/027
- G03F-007/20

Abstract:

PROBLEM TO BE SOLVED: To provide an exposing method and an apparatus which enable the exposure of a pattern of contact holes in high resolution (i.e., as for a column of contact holes, the equivalent resolution as an L & S pattern using a phase shift mask) without changing a mask, which has fine hole diameters (e.g., $\leq 0.15 \mu\text{m}$) and is mixed with contact holes varying from a contact hole or an isolated contact hole to the columns of contact holes. **SOLUTION:** A subject to be exposed is exposed by lightening a mask having a pattern of contact holes and an auxiliary pattern smaller than the pattern of contact holes with a light that forms an effective light source having an empty center of non circular shape, and projecting the pattern of contact holes on the subject to be exposed using a projecting optical system.

COPYRIGHT: (C)2005,JPO&NCIPI

JAPIO

© 2006 Japan Patent Information Organization. All rights reserved.

Dialog® File Number 347 Accession Number 8394339